

C L A I M S

1. A method of transmission of data messages between a plurality of stations interconnected by a bus line, wherein each said message includes a frame portion representing content and priority information of the data message and a data portion representing data to be transmitted, the method comprising the steps of causing at least one said station to transmit a data message on to the bus line such that said frame portion thereof is transmitted at a first data transmission rate, and the data portion thereof is transmitted at a second data transmission rate not less than said first data transmission rate, and adjusting said first and/or second data transmission rate in dependence on a signal quality determined for transmission on said bus line.
2. A method according to claim 1, further comprising the step of causing at least one further station to transmit onto the bus line, an acknowledgement signal indicating receipt of a said data message.
3. A method according to claim 2, further comprising the step of causing at least one said station to transmit a further said data message in response to transmission of a said acknowledgement signal.
4. A method according to claim 2 or 3, further comprising the step of re-transmitting a said message if no acknowledgement signal is received.
5. A method according to claim 4, further comprising the step of generating an error message prior to re-transmission of said message.
6. A method according to claim 5, further comprising the step of adjusting said first and/or second data transmission rate in dependence on the frequency of generation of said error messages.
7. A method according to claim 1, further comprising the step of determining the frequency of received data messages comprising an error and adjusting said first and/or

second data transmission rate in dependence on the frequency of received data messages comprising an error.

8. A method according to claim 7, further comprising determining received signal strength for a data message and adjusting said first and/or second data transmission rate in dependence on said received signal strength determination in combination with said frequency of received data messages comprising an error.

9. A method according to any one of the preceding claims, wherein said frame portion contains information representing a station to which the message is directed.

10. A method according to any one of the preceding claims, wherein the frame portion contains information representing the size of the corresponding data portion.

11. A method according to any one of the preceding claims, wherein the second data transmission rate is an integral multiple of said first data transmission rate.

12. A method of transmission of data messages between a plurality of stations interconnected by a bus line, the method substantially as hereinbefore described with reference to Figures 4 and 5 of the accompanying drawings.

13. Apparatus for transmitting data messages between a plurality of stations interconnected by a bus line, each of said data messages including a frame portion representing content and priority information of the data message and a data portion representing data to be transmitted, the apparatus comprising:

means for transmitting a data message on said bus line such that said frame portion thereof is transmitted at a first data transmission rate, and said data portion thereof is transmitted at a second data transmission rate not less than said first data transmission rate; and

means for adjusting said first and/or second data transmission rate in dependence on a signal quality determined for transmission on said bus line.

14. Apparatus according to claim 13, further comprising means responsive to receiving a data message to transmit an acknowledgement signal on said bus line.

15. Apparatus according to claim 13 or 14, further comprising means responsive to an acknowledgement signal to transmit a further said data message.

16. Apparatus according to any one of claims 13 to 15, further comprising means for re-transmitting a message if no acknowledgement signal is received.

17. Apparatus according to claim 16, further comprising means for generating an error message prior to re-transmission of said message.

18. Apparatus according to claim 17, further comprising means for adjusting said first and/or second data transmission rate in dependence on the frequency of generation of said error messages.

19. Apparatus according to claim 13, further comprising means for determining whether a data message comprises an error.

20. Apparatus according to claim 19, said means for determining whether a data message comprises an error including a Cyclic Redundancy Checker.

21. Apparatus according to claim 20, further comprising an error register for holding a value indicative of the level of received messages comprising an error, and means for decrementing said value for a received data message determined not to comprise an error and incrementing said value for a received data message determined to comprise an error.

22. Apparatus according to claim 13 or any one of claims 19 to 21, further comprising a received signal strength measurement unit for measuring signal strength of a received data message.

23. Apparatus according to claim 22, further comprising a signal strength register for holding a value representative of received signal strength.

24. Apparatus according to claim 21, further comprising processing means for adjusting said first and/or second data transmission rate in dependence on the content of said error register.

25. Apparatus according to claim 23, further comprising processing means for adjusting said first and/or second data transmission rate in dependence on the content of said signal strength register.

26. Apparatus according to claim 25 and 24, said processing means configured to adjust said first and/or second data transmission rate in dependence on the content of said error register and said signal strength register.

27. Apparatus according to any one of claims 13 to 26, wherein said frame portion contains information representing a station to which the message is directed.

28. Apparatus according to any one of claims 13 to 27, wherein the frame portion contains information representing the size of a corresponding data portion.

29. Apparatus according to any one of claims 13 to 28, wherein the second data transmission rate is an integral multiple of said first data transmission rate.

30. Apparatus for transmitting data messages between a plurality of stations interconnected by a bus line, the apparatus substantially as hereinbefore described with reference to Figures 6 and 7 of the accompanying drawings.

31. A computer program comprising computer program means for configuring a processor to operate in accordance with any one of claims 1 to 12.

32. A computer program carrier medium, comprising a computer program according to claim 31.

33. A computer program carrier medium according to claim 32, comprising one of a magnetic storage medium, optical storage medium, solid state storage medium or communications carrier medium.

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